CLAIMS

What is claimed is:

1. A method for supporting wafers for singulation and pick-and-place, comprising:
providing a semiconductor wafer;
mounting an adhesive-coated tape to a surface of the semiconductor wafer;
singulating the semiconductor wafer into individual components, leaving a ring of material about a periphery thereof; and
removing at least some individual components from the adhesive-coated tape.

2. The method of claim 1, further including gripping the semiconductor wafer by the ring of material during the removing of the at least some individual components.

3. The method of claim 1, further including forming the ring of material from material of the semiconductor wafer.

4. The method of claim 1, further including forming at least a portion of the ring of material from a polymer material disposed about a periphery of the semiconductor wafer.

5. The method of claim 1, further including forming the ring of material in part from material of the semiconductor wafer and in part from a polymer disposed about a periphery of the semiconductor wafer.

6. The method of claim 5, further comprising forming the ring of material from the polymer material by one of spin-coating, stereolithography or molding.

7. The method of claim 1, further comprising backgrinding the semiconductor wafer prior to singulation.

8. The method of claim 7, further comprising mounting the adhesive-coated tape to an active surface of the semiconductor wafer and singulating the semiconductor wafer from a backside thereof after backgrinding.

9. The method of claim 7, further comprising mounting the adhesive-coated tape to a backside of the semiconductor wafer and singulating the semiconductor wafer from an active surface thereof.

10. The method of claim 1, further comprising mounting the adhesive-coated tape to a backside of the semiconductor wafer and singulating the semiconductor wafer from an active surface thereof.

11. The method of claim 1, wherein mounting the adhesive-coated tape comprises mounting a tape bearing a UV-sensitive adhesive thereon.

12. The method of claim 11, further comprising exposing the UV-sensitive adhesive prior to removing the at least some individual components, but for a portion on the adhesive-coated tape extending over the ring of material.

13. The method of claim 1, wherein the semiconductor wafer is singulated using one of laser cutting, water cutting and sawing.

14. The method of claim 1, further comprising discarding the ring of material, any remaining individual components and the adhesive-coated tape after removing the at least some individual components.

15. An in-process semiconductor structure, comprising:

a semiconductor wafer having an adhesive-coated tape adhered to one of an active surface and a backside thereof, the adhesive-coated tape being sized and configured to substantially conform to a periphery of the semiconductor wafer;

wherein the semiconductor wafer includes a plurality of singulated semiconductor dice surrounded by a continuous, peripheral ring of material.

16. The in-process semiconductor structure of claim 15, wherein the continuous, peripheral ring of material comprises material of the semiconductor wafer.

17. The in-process semiconductor structure of claim 15, wherein the continuous, peripheral ring of material comprises a polymer material disposed about the periphery of the semiconductor wafer.

18. The in-process semiconductor structure of claim 15, wherein the continuous, peripheral ring of material comprises material of the semiconductor wafer and a polymer material disposed about the periphery of the semiconductor wafer.

19. The in-process semiconductor structure of claim 15, wherein the adhesive of the adhesive-coated tape comprises a UV-sensitive adhesive.

20. The in-process semiconductor structure of claim 15, further comprising a holder gripping the continuous, peripheral ring of material from thereabove and therebelow and having a central opening exposing the plurality of singulated semiconductor dice and a portion of the adhesive-coated tape extending thereover.

21. The in-process semiconductor structure of claim 20, wherein the adhesive of the adhesive-coated tape comprises a UV-sensitive adhesive.

22. The in-process semiconductor structure of claim 21, wherein the holder includes a peripheral annular portion aligned with and extending over a portion of the adhesive-coated tape overlying the continuous, peripheral ring of material.

23. The in-process semiconductor structure of claim 22, wherein a portion of the UV-sensitive adhesive within the central opening has been exposed to UV radiation to release the plurality of singulated semiconductor dice therefrom.

24. The in-process semiconductor structure of claim 20, wherein the holder is a clamshell-style holder, comprising:
an upper, annular portion having a central opening therethrough;
a lower, annular portion having a central opening therethrough; and
structure for mutually attaching the upper and lower annular portions.

25. A method for processing a semiconductor wafer, comprising:
singulating a semiconductor wafer into individual components and removing at least some singulated individual components without using a film frame.

26. The method of claim 25, wherein the semiconductor wafer is a 300 mm semiconductor wafer and further including handling the 300 mm semiconductor wafer using equipment sized to handle 200 mm semiconductor wafers.

27. The method of claim 26, further including singulating the 300 mm semiconductor wafer using a 200 mm semiconductor wafer saw chuck.

28. The method of claim 26, further including holding the 300 mm semiconductor wafer in a 200 mm semiconductor wafer pick-and-place machine chuck while removing the at least some singulated individual components therefrom.

29. A method of processing a semiconductor wafer, comprising:

singulating a semiconductor wafer into individual components while leaving an uncut peripheral ring of material thereabout.

30. The method of claim 29, further including removing at least some singulated individual components therefrom.

31. The method of claim 30, further including gripping the uncut peripheral ring of material while removing the at least some singulated individual components therefrom.

32. The method of claim 29, further comprising defining the uncut peripheral ring of material from semiconductor material.

33. The method of claim 29, further comprising defining the uncut peripheral ring of material at least in part from a polymer disposed about the semiconductor wafer.

34. The method of claim 29, further comprising defining the uncut peripheral ring of material in part from semiconductor material and in part from a polymer disposed about a periphery of the semiconductor wafer.

35. The method of claim 30, wherein the semiconductor wafer is a 300 mm semiconductor wafer and further including handling the 300 mm semiconductor wafer using equipment sized to handle 200 mm semiconductor wafers.

36. The method of claim 35, further including singulating the 300 mm semiconductor wafer using a 200 mm semiconductor wafer saw chuck.

37. The method of claim 35, further including holding the 300 mm semiconductor wafer in a 200 mm semiconductor wafer pick-and-place machine chuck while removing the at least some singulated individual components therefrom.

38. A method of using a 300 mm semiconductor wafer, including handling the 300 mm semiconductor wafer with equipment sized to handle 200 mm semiconductor wafers.

39. The method of claim 38, further including processing the 300 mm semiconductor wafer with equipment sized to handle 200 mm semiconductor wafers.

40. A wafer holder, comprising:
an upper, annular portion having a central opening therethrough;
a lower, annular portion having a central opening therethrough; and
structure for mutually attaching the upper and lower annular portions.

41. The wafer holder of claim 40, wherein the wafer holder is a clamshell-style holder, and the structure for mutually attaching the upper and lower annular portions comprises a hinge.